



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/527,992

03/21/2005

Itaru Takamura

4015-47

4871

23117 7590 08/05/2008
NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD, 11TH FLOOR
ARLINGTON, VA 22203

EXAMINER

SANDERS, STEPHEN

ART UNIT

PAPER NUMBER

2139

MAIL DATE

DELIVERY MODE

08/05/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/527,992	Applicant(s) TAKAMURA ET AL.	
	Examiner STEPHEN SANDERS	Art Unit 2139	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-9 is/are rejected.
- 7) ☒ Claim(s) 4-6 and 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>Mar. 21, 2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This is in response to Application/Control Number: 10/527992 filed on March 21, 2005 in which claims 3-9 are presented for examination.

Status of Claims:

Claims 3-9 are pending, in which claim 3, 7, and 8 are in independent form. Claims 3-9 are rejected under 35 U.S.C. 102(e).

Claim Objections

1. Claims 4-6 are objected to because of the following informalities: incorrect numbering of dependent claim cited as "according to claim 1" instead of "according to claim 3". Appropriate correction is required.
2. Claim 9 is objected to because of the following informalities: incorrect numbering of dependent claim cited as "according to claim 2" instead of "according to claim 4". Appropriate correction is required.

Claim Rejections - 35 USC § 102

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 3-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Kitaya et al U.S. Patent Number 7,269,257; Date of Patent: Sep. 11, 2007; Filing Date: Jun. 15, 2001; hereinafter Kitaya.

As to claim 3, the following is taught: “A key management system comprising:
a unit which defines a tree structure assigning plural information receivers to leaves (Kitaya: Abstract; column 3, lines 43-48; column 20, lines 15-19);

a unit which divides the tree structure into macrolayers of a predetermined number to define plural subtrees (Kitaya: column 29, lines 22-30);

a unit which independently defines differential subsets of the information receivers for each of the subtrees (Kitaya: column 3, lines 33-42), the subset being defined by an ancestor node and a descendant node (Kitaya: column 33, line 52 to column 34, line 10) existing in the subtree, the information receivers being assigned to the leaves of the subtree which exist at a layer identical to or below the ancestor node and does not exist at a layer identical to or below the descendant node or assigned to the leaves of the tree structure which exist at a layer below the leaves of the subtree (Kitaya: column 18, line 60 to column 19, line 15);

a unit which assigns one encryption/decryption key to each of the differential subset (Kitaya: column 16, line 5-21); and

a unit which assigns, to each of the plural information receivers, the encryption/decryption key assigned to all the differential subsets to which the information receiver belong (Kitaya: column 4, lines 20-33)”.

As to claim 4, the following is taught: “The key management system according to claim 1, further comprising a key information generating unit which generates key

Art Unit: 2139

information decryptable only by specific information receivers in the plural information receivers assigned to the leaves of the tree structure (Kitaya: Abstract; column 3, lines 43- 62)".

As to claim 5, the following is taught: "The key management system according to claim 1, further comprising a unit which assigns, to specific information receivers in the plural information receivers, confidential information which enables to derive the encryption/decryption key assigned to all the differential subsets including the information receivers (Kitaya: Abstract; column 6, lines 4-13)".

As to claim 6, the following is taught: "The key management system according to claim 1, further comprising:

a key information generating unit which generates key information decryptable only by specific information receivers in the plural information receivers assigned to the leaves of the tree structure (Kitaya: Abstract; column 3, line 63 to column 4, line 13; column 6, lines 4-52);

a unit which assigns, to the specific information receivers, confidential information which enables to derive the encryption/decryption key assigned to all the differential subsets including the information receivers (Kitaya: column 15, line 61 to column 16, line 30); and

a unit which derives the encryption/decryption key assigned to all the differential subsets including the specific information receivers by using the key information and the confidential information (Kitaya: column 23 54 to column 24, line 44)".

As to claim 7, the following is taught: "A key management method comprising:
a process which defines a tree structure assigning plural information receivers to leaves (Kitaya: Abstract; column 3, lines 43-48; column 20, lines 15-19);

a process which divides the tree structure into macrolayers of a predetermined number to define plural subtrees (Kitaya: column 29, lines 22-30);

a process which independently defines differential subsets of the information receivers for each of the subtrees (Kitaya: column 3, lines 33-42), the subset being defined by an ancestor node and a descendant node (Kitaya: column 33, line 52 to column 34, line 10) existing in the subtree, the information receivers being assigned to the leaves of the subtree which exist at a layer identical to or below the ancestor node and does not exist at a layer identical to or below the descendant node or assigned to the leaves of the tree structure which exist at a layer below the leaves of the subtree (Kitaya: column 18, line 60 to column 19, line 15);

a process which assigns one encryption/decryption key to each of the differential subset (Kitaya: column 16, line 5-21); and

a process which assigns, to each of the plural information receivers, the encryption/decryption key assigned to all the differential subsets to which the information receiver belong (Kitaya: column 4, lines 20-33)".

As to claim 8, the following is taught: “A computer product program in a computer-readable medium executed by a key management system comprising a computer, the computer product program (Kitaya: column 3, lines 22-42; column 14, lines 37-62) making the computer function as:

a unit which divides the tree structure into macrolayers of a predetermined number to define plural subtrees (Kitaya: column 29, lines 22-30);

a unit which independently defines differential subsets of the information receivers for each of the subtrees (Kitaya: column 3, lines 33-42), the subset being defined by an ancestor node and a descendant node (Kitaya: column 33, line 52 to column 34, line 10) existing in the subtree, the information receivers being assigned to the leaves of the subtree which exist at a layer identical to or below the ancestor node and does not exist at a layer identical to or below the descendant node or assigned to the leaves of the tree structure which exist at a layer below the leaves of the subtree (Kitaya: column 18, line 60 to column 19, line 15);

a unit which assigns one encryption/decryption key to each of the differential subset (Kitaya: column 16, line 5-21); and

a unit which assigns, to each of the plural information receivers, the encryption/decryption key assigned to all the differential subsets to which the information receiver belong (Kitaya: column 4, lines 20-33)”.

As to claim 9, the following is taught: "A recording medium which records the key information generated by the key management system according to claim 2 (Kitaya: column 3, lines 22-42; column 7, lines 25-36)".

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to

STEPHEN SANDERS whose telephone number is (571)270-5308. The examiner can normally be reached on M - F; 7:30a.m. - 5:00p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kristine L. Kincaid can be reached on 571-272-4063. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/527,992
Art Unit: 2139

Page 8

/Stephen Sanders/
Examiner, Art Unit 2139

/Kristine Kincaid/
Supervisory Patent Examiner, Art
Unit 2139